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WHAT IS CLAIMED IS:

1. An isolated and purified DNA molecule that encodes human 5-HT3-C protein,
or a functional derivative thereof, wherein said protein optionally functions as a
5 subunit to modify the function of a serotonin 5-HT3-A receptor.
2. The isolated and purified DNA molecule of claim 1, having a nucleotide
sequence selected from a group consisting of: (SEQ.ID.NO.:4); (SEQ.ID.NO.:5);
and functional derivatives thereof.
- 10 3. The isolated and purified DNA molecule of claim 1, wherein said DNA
molecule is genomic DNA.
4. An expression vector for expression of a human 5-HT3-C protein in a
15 recombinant host, wherein said vector contains a recombinant gene encoding
human 5-HT3-C protein, or a functional derivative thereof, wherein said protein
modifies the function of the human serotonin 5-HT3-A receptor.
5. The expression vector of claim 4, comprising a nucleotide sequence
20 selected from a group consisting of: (SEQ.ID.NO.:4); (SEQ.ID.NO.:5); and
functional derivatives thereof.
6. The expression vector of claim 4, wherein the expression vector contains
genomic DNA encoding human 5-HT3-C protein.
- 25 7. A recombinant host cell containing a recombinantly cloned gene encoding
human 5-HT3-C protein wherein said protein functions as a modifier of the human
5-HT3-A receptor, or functional derivative thereof.

8. The recombinant host cell of claim 7, wherein said recombinantly cloned gene has a nucleotide sequence selected from a group consisting of: (SEQ.ID.NO.:4); (SEQ.ID.NO.:5); and functional derivatives thereof.
- 5 9. The recombinant host cell of claim 7, wherein said cloned gene encoding human 5-HT3-C protein is genomic DNA.
- 10 10. A protein, in substantially pure form that functions as human 5-HT3-C protein wherein said protein optionally functions as a modifier of the human serotonin 5-HT3-A receptor.
11. The protein according to claim 10, having an amino acid sequence selected from a group consisting of: (SEQ.ID.NO.:9), and functional derivatives thereof.
- 15 12. A monospecific antibody immunologically reactive with human 5-HT3-C protein.
13. The antibody of claim 12, wherein said antibody blocks activity of the 5-HT3-C protein.
- 20 14. A process for expression of human 5-HT3-C protein wherein said protein optionally functions as a modifier of the human serotonin 5-HT3-A receptor in a recombinant host cell, comprising:
- (a) transferring the expression vector of Claim 4 into suitable host
- 25 cells; and
- (b) culturing the host cells under conditions that allow expression of the human 5-HT3-C protein from the expression vector.
15. A method of identifying compounds that modulate human 5-HT3-C
- 30 protein activity, comprising:

(a) combining a modulator of human 5-HT3-C protein activity with human 5-HT3-C protein wherein said protein functions as a modifier of the human 5-HT3-A receptor; and

(b) measuring an effect of the modulator on the protein.

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16. A compound active in the method of claim 15, wherein the effect of the modulator on the human 5-HT3-C protein is inhibiting or enhancing binding of human 5-HT3 receptor ligands to a human serotonin 5-HT3 receptor complex.

10 17. A compound active in the method of claim 15, wherein the modulator stimulates or inhibits the function of human 5-HT3-C in the 5-HT3 receptor complex.

18. A compound active in the method of Claim 15, wherein said compound is
15 an agonist or antagonist of the human serotonin 5-HT3 receptor complex comprising 5-HT3-A and 5-HT3-C proteins.

19. A compound active in the method of Claim 15, wherein said compound is a modulator of expression of a 5-HT3-C subunit.

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20. A pharmaceutical composition comprising a compound active in the method of Claim 15, wherein said compound is a modulator of human 5-HT3-C subunit activity.

25 21. A method of treating a patient in need of such treatment for a condition that is mediated by a human 5-HT3-C, comprising administration of a human 5-HT3-C modulating compound active in the method of Claim 15.